



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,402	11/21/2003	Steven R. Sedlmayr	AU01021	3352
7590	12/21/2004		EXAMINER	
Law Office of Roxana H. Yang P.O. Box 400 Los Altos, CA 94023			FINEMAN, LEE A	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/719,402	SEDLMAYR, STEVEN R.
	Examiner	Art Unit
	Lee Fineman	2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 October 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 289-295,298-309,312-324,327-338 and 341-346 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 289-295,298-309,312-324,327-338 and 341-346 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 November 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 10/12/04.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

This Office Action is in response to an amendment filed 12 October 2004 in which claims 298-301, 312-315, 327-330 and 341-344 were amended and claims 296-297, 310-311, 325-356 and 339-340 were cancelled. Claims 289-295, 298-309, 312-324, 327-338 and 341-346 are pending.

Claim Objections

1. Claims 298, 312, 327 and 342 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 298, 312, 327 and 342 contain only the limitations which are in claims 292, 306, 321 and 335 respectively.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 289, 291-292, 294-295, 298, 300-303, 305-306, 308-309, 312, 314-316, 318, 320-321, 323-324, 327, 329-332, 334-335, 337-338, 341 and 343-345 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, U.S. Patent No. 5,121,983 in view of Konno et al., U.S. Patent No 4,497,015.

Regarding claims 289, 303, 318 and 332, Lee discloses in fig. 3 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts, comprising [a] means (A-D) for providing a primary beam of electromagnetic energy/light having a predetermined range of wavelengths, randomly changing orientations of a chosen component of electromagnetic wave field vectors; [b] means (F-1) for resolving the primary beam of electromagnetic energy/light into a primary first resolved beam (S-polarized) of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors and a primary second resolved beam (P-polarized) of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors; [c] means (H-1, H-2)) for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the primary resolved beams of electromagnetic energy/light by passing the plurality of portions of each of the primary resolved beams of electromagnetic energy/light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the primary resolved beams of electromagnetic energy/light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the primary resolved beams of electromagnetic energy/light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors; [d] [i] means (F-2) for resolving from the first altered primary first resolved beam of electromagnetic energy/light a first resolved beam of

electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors, and [ii] means (F-2) for resolving from the second altered primary first resolved beam of electromagnetic energy/light a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; and [e] means (F-2) for merging one of the resolved beams of electromagnetic energy/light from the altered primary first resolved beam of electromagnetic energy/light with one of the resolved beams of electromagnetic energy/light from the second altered primary resolved beam of electromagnetic energy/light into a first single collinear beam of electromagnetic energy/light (column 4, lines 43-47). Lee discloses the claimed invention except for the primary beam being a substantially uniform flux intensity substantially across the initial beam of light. Konno et al. disclose a light illumination device (fig. 5) that produces a primary beam (at M) that has a substantially uniform flux intensity substantially across the initial beam of light (column 5, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the illumination device of Lee with that of Konno et al. to have a more uniform intensity light beam and provide a more consistent image. The method of utilizing the structure of the claim is inherent therein.

Regarding claims 291, 305, 320 and 334, Lee further discloses wherein the means (F-1) for resolving the primary beam into first (S-polarized) and second (P-polarized) resolved beams includes means (F-1) for resolving the primary beam into first and second resolved beams in which the first selected predetermined orientation (S-polarized) of the chosen component of the electromagnetic wave field vectors has the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation (P-polarized) of the chosen component of the electromagnetic wave field vectors.

Regarding claims 292, 298, 306, 312, 321, 327, 335 and 341, Lee further discloses wherein the means (F-2) for merging the resolved beams includes means (F-2) for merging the resolved beams in which the plurality of portions of one of the merged resolved beams has a different selected predetermined orientation (S-polarized) of a chosen component of electromagnetic wave field vectors from the plurality of portions of the other merged resolved beam (P-polarized).

Regarding claims 294-295, 300-301, 308-309, 314-315, 323-324, 329-330, 337-338 and 343-344, Lee further discloses wherein the means (F-2) for merging the resolved beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident (in so far as any portion is coincident) or simultaneous to the plurality of portions of the other merged beam (column 4, lines 43-47).

Regarding claims 302, 316, 331 and 345, Lee further discloses a means (K) for passing the first single collinear beam of electromagnetic energy/light to a projection means (M).

4. Claims 317 and 346 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Konno et al., as applied to claims 303 and 332 above, and further in view of Nishida et al., U.S. Patent No 5,295,005.

Lee in view of Konno et al., as applied to claims 303 and 332 above disclose an illumination system with a light source but are silent to the type of light source and whether it includes providing a primary beam of ultraviolet. Nishida et al. teaches using a metal-halide light source (column 4, lines 42-44), which inherently includes ultraviolet light, in a projector system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the light source of Lee in view of Konno et al. with a metal-halide light source, as suggested by Nishida et al., to provide high luminance and a long life span (Nishida, column 3, lines 26-27).

5. Claims 293, 299, 307, 313, 322, 328, 336 and 342 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, and further in view of Craig, U.S. Patent No 4,740,836.

Lee in view of Konno et al., as applied to claims 289, 303, 318 and 332 above, discloses the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images

of Lee in view of Konno et al. noncoincident to provide a three-dimensional projector which will work with many different stereoscopic imaging techniques like those suggested by Craig.

Response to Arguments

6. Applicant's arguments filed 12 October 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that Konno et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the particular problem with which the applicant was concerned is illuminating a liquid crystal device with a uniform flux light source to display an image. Konno et al. clearly provides a light illumination device with uniform flux/intensity for providing illumination of an object (see abstract and field of the invention). Although Konno et al. further state in the field of the invention that the present invention relates "**more particularly** to a light illumination system suitable for use in an exposure device for fabricating semiconductor devices such as ICs" it is not limited to use only in those devices.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Konno et al. teaches a light illumination device with uniform flux for providing illumination of an object. Clearly replacing a light source (of Lee or Kurematsu) with a more efficient one (Konno) that provides a more uniform light intensity on the object is knowledge generally available to one of ordinary skill in the art and an appropriate motivation.

The applicant also argues that the references cannot be combined and further would have no reason to combine because Konno teaches away from the combination and would render the prior art invention being modified unsatisfactory for its intended purpose. Applicant states that because Konno discloses an optical system for producing reduced images and Lee and Kurematsu disclose optical systems for producing enlarged images, the combination is not appropriate and in fact teach away from each other. The examiner respectfully disagrees. The combination is directed to the light source of each optical system not the optics for displaying/projecting the image. Lee, Kurematsu and Konno all have light sources that provide collimated white light to the optics of the system, which in turn will reduce or enlarge the light beam as required. Again, it is clearly appropriate and within the knowledge of one of ordinary skill in the art to replace the light source of Lee or Kurematsu with a more efficient one (Konno) to provide a more uniform light intensity on an object.

7. It is noted by the Examiner that the drawing objections and 112 rejections made in the previous Office Action have been withdrawn due to amendment and persuasive arguments presented by the Applicant.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF

December 16, 2004



MARK A. ROBINSON
PRIMARY EXAMINER